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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/741,956	12/20/2000	Hau Lee	DEM1P003	7270

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EXAMINER
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ART UNIT	PAPER NUMBER
3639	

DATE MAILED: 07/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/741,956	LEE ET AL.
	Examiner	Art Unit	
	Akiba K. Robinson-Boyce	3639	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *31 May 2005*.

2a)☐ This action is **FINAL**.　　2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All　b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *053105*.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/31/05 has been entered.

Status of Claims

2. Due to communications filed 5/31/05, the following is a non-final office action. Claims 1-5 have been amended. Claims 6-9 have been added. Claims 1-9 are pending in this application and have been examined on the merits.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to a non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of :

(1) whether the invention is within the technological arts; and

(2) whether the invention produces a useful, concrete, and tangible result.

5.   For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful art" (i.e., the physical sciences) as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For a process claim, the recited process must somehow apply, involve, use, or advance the technological arts.

In the present case, claim 3 is directed to a computer program product in a computer-readable media. Claim 3 recites "an econometric engine for modeling sales as a function of price", "an imputed variable generator..." and "a coefficient estimator coupled to the imputed variable generator, and wherein imputed variables generated by the variable generator are used by the coefficient estimator to create a sales model...". However, these claims are directed towards software, which alone is not statutory. In order to be statutory, this software must be embodied on *and executed by* a tangible medium. Since no software embodied on a tangible medium exist, claim 3, and all claims that depend form it (claims 4 , 5 and 9) are non-statutory.

6.   As to technological arts recited in the preamble, mere recitation in the preamble (i.e., intended or field of use) or mere implication of employing a machine or article of manufacture to perform some or all of the recited steps does not confer statutory subject matter to an otherwise abstract idea unless there is positive recitation in the claim as a whole to breath life and meaning into the preamble.

In the present case, the preamble of claim 1 recites "A computer-implemented method for creating a sales model for a plurality of products, said method comprising the steps of". However, since no computer hardware or software embodied on a tangible medium are in the body of the claim, claim 1 and all claims that depend from it (claims 2, and 6-8) are therefore non-statutory.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ouimet et al (US 6,078,893), and further in view of Garg, (US 6,044,357)

As per claim 1 Ouimet et al discloses:

Creating a plurality of demand groups, wherein each demand group is a set of at least one product, and wherein at least one of the demand groups is a set of at least two products, (col. 5, lines 45-64, [shows demand is described for each item in a given group where the product is represented by the item, in this case, one of the demand groups being a set of at least two products is inherent since Ouimet et al discloses that "each item in a given group" implies that there are more than one items in a group since the sales of "one" item can depend upon the parameters of all the other items]);

Creating a sales model as a function of price for each demand group, (col. 6,
lines 5-11, [shows a one-dimensional demand model which scales the amount of sales,
in this case, the variables are simply the prices {p},and the demand parameters qi
scales the amount of sales and gi, which describes the sensitivity of the item to price]);

Ouimet et al does not specifically disclose wherein each demand group is a
group of highly substitutable products, but does disclose defining a new market model
that represents and describes how the demand parameters are expected to vary, where
the demand parameters relate to the products in each demand group in col. 6, lines 17-
25.

However, Garg discloses:

wherein each demand group is a group of highly substitutable products, (Col. 13,
line 65, shows inventory maintenance is implemented for products which means that
these products are replaceable through inventory stock, w/ Col. 14, lines 55-58 and col.
15 lines 17-18 and lines 24-26, show the selection of a first marketing mix, a selection of
another marketing mix, and then the identification of which marketing mix generates the
largest profit/loss, in this case, one marketing mix for products can be substituted for
another marketing mix for the highest profit or loss outcome). Garg discloses this
limitation in an analogous art for the purpose of showing that products within marketing
mixes are interchangeable.

It would have been obvious to one of ordinary skill in the art at the time of the
applicant's invention for each demand group to be a group of highly substitutable
products with the motivation of having the ability to replace the products when needed.

creating a market share model for determining the fraction of the sales of each

demand group comprised by each product, however does disclose defining a new

market model that represents and describes how the demand parameters are expected

to vary, where the demand parameters relate to the products in each demand group in

col. 6, lines 17-25.

However, Garg discloses:

creating a market share model for determining the fraction of the sales of each

demand group comprised by each product,, (col. 5, lines 38-41, [market share model to

characterize the demand distribution for each brand, in this case. the group is

represented by the brand, and the demand distribution represents different demand

resulting from sales for each product. This demand distribution will therefore vary for

each brand, and therefore represents fraction of the sales]). Garg discloses this

limitation in an analogous art for the purpose of showing that market share models are

used to set base stock levels for inventory management.

It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention to create a market share model for each product in each demand

group with the motivation of providing a representation of how the demand distribution is

represented through products.

As per claim 6, Ouimet et al discloses:

Defining an equivalizing factor for the products of each demand group, (Col. 4,

line 66-Col. 5, line 6).

9.   Claims 3-5, 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Chavez et al, (US 6,684,193), and further in view of Ouimet et al.

As per claims 3, 7, Chavez et al discloses:

An econometric engine for modeling sales as a function of price, (Col. 7, lines 5-

10 and lines 58-62, shows using the economical model to balance the amount of money

brought in from sales against the costs).

A imputed variable generator for generating imputed econometric variables; (col.

8, lines 22-27, [consumption distribution imputed {inferred} from components]);

A coefficient estimator coupled to the imputed variable generator, and wherein

imputed variables generated by the variable generator are used by the coefficient

estimator to create a sales model as a function of price, [col. 15,lines 6-14, [revenue

coefficient]).

Chavez et al does not specifically disclose the terms "variable generator" or

"coefficient estimator", however, does disclose an engine (col. 18, lines 23-27) that

produces the same results, and therefore represents the econometric engine that

contains the "variable generator" and the "coefficient estimator". Therefore, the

"variable generator" and the "coefficient estimator" are inherent with Chavez et al.

Chavez et al fails to disclose including a base price variable and a base volume

Variable/an imputed base price variable and an imputed base volume variable, but does

disclose the generation of a model for the demand of a product in col. 53-63.

However, Ouimet et al discloses:

including a base price variable and a base volume variable/ an imputed base

price variable and an imputed base volume variable, (Col. 10, lines 60-65, where the

base parameters in the demand model are the amount of sales and price, here the

amount of sales is the volume and the price is the price). Ouimet et al discloses this

limitation in an analogous art for the purpose of disclosing a one-dimensional demand

model.

It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention to include a base price variable and a base volume variable with

the motivation of having variables available to formulate a base demand model.

Chavez et al does not specifically disclose wherein said base volume variable

represents the volume of product units sold in the absence of promotional effects, (Col.

10, line 60-67, where it is shown that the base parameter's values would depend on the

sales level and price. Chavez et al discloses this limitation in an analogous art for the

purpose of showing that the base values scale the amount of sales and price.

It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention to implement the base price and volume variables with the

motivation of incorporating a one-dimensional model.

As per claim 4, Chavez et al discloses:

Wherein the imputed variable generator receives raw data, and cleans the data,

(Col. 20, lines 24-32, [filtering and then identifying variables]).

As per claim 5, Chavez et al discloses:

Wherein the coefficient estimator creates the sales model by creating a sales model for a demand group and creating a market share model for a product in the demand group, (col. 7, lines 8-19, [model where a demand for products is expressed], Col. 13, lines 28-43, [creating a model that includes lost market share]).

As per claim 8, Ouimet et al discloses:

Generating a moving average for base price; and generating a moving average for base volume, (Col. 6, lines 51-53).

As per claim 9, Ouimet et al does not specifically disclose wherein said raw data includes missing or incomplete data sets, (Col. 11, lines 36-41, imperfect information). Garg discloses this limitation in an analogous art for the purpose of showing that firms do not usually know the exact strategy their competitors will adopt.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention for raw data to include missing or incomplete data with the motivation of realistically showing the details of raw data.

10.   Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ouimet et al (US 6,078,893) as applied to claim 1 above, and further in view of Garg, (US 6,044,357), and further in view of Chavez et al (US 6,684,193).

As per claim 2, both Ouimet et al and Garg fail to disclose collecting raw data; and generating imputed variables from the raw data, wherein the imputed variables are used to create the sales model, as a function of price, but Ouimet et al does disclose generating a sales model in Col. 6,lines 5-11.

However, Chavez et al discloses:

collecting raw data; and generating imputed variables from the raw data,

wherein the imputed variables are used to create the sales model, as a function of price,

(Col. 20, lines 24-32, [filtering and then identifying variables], w/ col. 6, lines 5-11,

[shows a one-dimensional demand model which scales the amount of sales, in this

case, the variables are simply the prices {p},and the demand parameters qi scales the

amount of sales and gi, which describes the sensitivity of the item to price]). Chavez et

al discloses this limitation in an analogous art for the purpose of identifying variables

that go furthest in "explaining" the uncertainty in the particular variable of interest.

It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention to collect raw data; and generate imputed variables from the raw

data, wherein the imputed variables are used to create the sales model as a function of

price with the motivation of producing a sales model with unused data.

Response to Arguments

11.   Applicant's arguments with respect to claims 1-5 have been considered but are

moot in view of the new ground(s) of rejection.

12.   Applicant's arguments filed 5/31/05 have been fully considered but they are not

persuasive.

Claims 1- 5 are still rejected under 35 USC 101 since only the pre-amble of claim

1 recites technology. In addition, the computer program product of claim 3 is only

recited to be "in a" computer-readable media and not executable by that media.

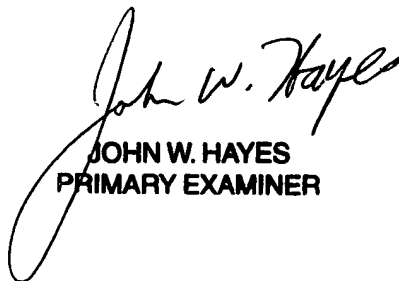Correction is required.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akiba K Robinson-Boyce whose telephone number is 571-272-6734. The examiner can normally be reached on Monday-Tuesday 8:30am-5pm, and Wednesday, 8:30 am-12:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on 571-272-6708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7238 [After final communications, labeled "Box AF"], 703-746-7239 [Official Communications], and 703-746-7150 [Informal/Draft Communications, labeled "PROPOSED" or "DRAFT"].

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

A. R. B.
July 8, 2005

JOHN W. HAYES
PRIMARY EXAMINER